

REMARKS

In an Office Action dated 01 October 2006, the Examiner rejects all pending claims 1-20 on prior art grounds. In reply, Applicant herein amends claims 1 and 2 and submits the present remarks which together overcome the outstanding rejections; entry and consideration hereof are requested.

Applicant now addresses the Examiner's various rejections in turn.

Claims 1-5, 8, 9, and 12 are rejected under 35 U.S.C. 103(a) as allegedly being obvious over U.S. Patent No. 2,457,102 to Jones in view of U.S. Patent No. 3,906,273 to Kozlowski. The Examiner argues that "Jones discloses the instant claimed invention...except for the sealing spacer are fitted and fixed to an inside wall of said housing and are inserted from open ends on both sides of said housing into an interior of said housing." (sic.) Office Action, page 3. The Examiner continues by stating that Kozlowski discloses the "sealing spacer" element of Applicant's claims at reference numerals 1 and 2 and that it "would have been obvious to one having ordinary skill in the art at the time of the invention to use sealing spacer that are fitted and fixed on an inside wall of the housing as taught by Kozlowski to the device of Jones...to allow insert of electrodes together with base plates or spacer into the housing at the same time..." (sic.) *Id.*

In reply, Applicant submits that neither Jones nor Kozlowski nor the combination thereof discloses "sealing spacers" as recited in amended claims 1 and 2. Moreover, Applicant submits that neither Jones nor Kozlowski nor the combination thereof discloses "at least one broadened tip having a projected or patterned surface" as also recited in Applicant's amended claims 1 and 2. Accordingly, the outstanding obviousness rejection is not proper and must be withdrawn.

Claim 1 is herein amended to recite, in relevant part, "A surge absorber without chips, comprising...a pair of lead terminals, each having a lead portion and a broadened tip forming a discharge electrode...; a sealing spacer fitted and fixed on the lead portion of

each said lead terminal; and a one piece cylindrical housing; wherein said pair of lead terminals and said sealing spacers fixed thereon are configured to be inserted from open ends on both sides of said housing into an interior of said housing...wherein the sealing spacers, with lead terminals fixed thereto, are adjustable within the cylindrical housing before said being fixed air tightly thereto". At least these emphasized portions of amended claim are not found in the relied upon references. That is, the Jones and Kozlowski references taken singularly or in combination simply do not teach or even suggest a pair of sealing spacers with a lead terminal fixed on each, where these spacer/terminal assemblies are insertable into, and adjustable within, an interior of a housing.

This claimed configuration is exemplified in Applicant's Figure 1 which shows a surge absorber without chips comprising a housing 10 and sealing spacers 22 and 24 fixed on respective lead terminals 14 and 16. These sealing spacers 22 and 24 are fixed immovably on the lead terminals 14 and 16. These spacer/terminal assemblies 14/22 and 16/24 are thus configured to be inserted into opposing ends of the housing 10 and further configured to be maneuvered and adjusted within the housing 10 so as to precisely position electrodes 18 and 20 of the lead terminals 14 and 16 relative to each other and relative to the housing 10. Once this desired position is established, the sealing spacers 22 and 24 (with affixed lead terminals 14 and 16) are sealed air tightly to the interior of the housing 10 to thus form the surge absorber. These inventive features give great flexibility in the manufacture and assembly of the surge absorbers.

Turning to the references, Jones teaches a spark gap apparatus consisting of a housing with two opposed electrodes where both electrodes are fixed immovably to the housing. Kozlowski teaches a spark gap apparatus having one electrode that is adjustable prior to hermetic sealing of the apparatus. Importantly, the Kozlowski electrode is movable relative to a housing and relative to a base plate fixed at an end of the housing. Neither Jones nor Kozlowski disclose the recited sealing spacers having electrodes fixed thereto where the sealing spacers are selectively movable within the housing prior to being fixed air tightly to an inside wall of the housing, as is recited in the amended claim 1.

Turning now in more detail to Jones, the reference teaches a spark gap apparatus consisting of a glass envelope 5 having rods 3 and 4 rigidly fixed to the envelope at areas 6 and 7. See, Figure 1 and related text. The rods 3 and 4 extend into an interior of the envelope 5 and include electrodes 1 and 2 disposed at respective ends thereof. The electrodes 1 and 2 are fixed to the rods 3 and 4 and are positioned opposite from one another at the interior of the envelope, separated by a distance d.

Kozlowski discloses a spark gap apparatus consisting of a tube housing 5 having base plates 1 and 2 rigidly fixed at opposing ends of the tube 5. See, Figure 1 and related text. A first electrode 10 extends through the base plate 1 and is rigidly fixed to the plate 1 so that the electrode 10 is incapable of moving. A second electrode 20 extends through a sleeve 3 which is mounted to the base plate 2 and which provides a passageway through the base plate 2. As such, the electrode is slidably moveable within the sleeve 3 relative to the tube 5. When the electrode 20 is positioned as desired, the electrode 20 is crimped and soldered as shown in Figure 3.

As set forth above, amended claim 1 requires “a sealing spacer fixed on the lead portion of each said lead terminal...wherein the sealing spacers, with lead terminals fixed thereto, are adjustable within the cylindrical housing before said being fixed air tightly thereto such that the distance between the discharge electrodes may be varied and set as desired.” These elements are simply not found in Jones or Kozlowski.

As mentioned, Jones teaches electrode rods 3 and 4 fixed immovably to the glass housing 5 at areas 6 and 7. Jones does not teach or suggest sealing spacers fixed to electrodes where the spacer/electrode assemblies are movable within a housing prior to air tight sealing, as required by Applicant’s amended claim 1.

As discussed, Kozlowski teaches base plates 1 and 2 fixed to opposite ends of the housing 5. The electrode 10 extends through the base plate 1 and is rigidly fixed thereto. The electrode 20 extends through the sleeve 3 which is fixed to, and provides a passage way through the base plate 2. Here, the electrode 20 is axially movable BUT the electrode

20 is not fixed to a moveable sealing spacer as required by the claims. Further more, the opposed electrode 10 of Kozlowski is immovable and is not fixed to a movable sealing spacer, as required by amended claim 1.

In the Office Action, the Examiner contends that Jones includes sealing spacers 6, 7, but that these “sealing spacers” do not meet all of the requirements of claim 1 and thus the Examiner resorts to Kozlowski. However, as described above, Jones does not provide sealing spacers. The items 6, 7 in Figure 1 of Jones refer to areas of the glass envelope 5 with increased thickness (see, e.g., col. 3, lines 30-35), not a sealing spacer separate from the housing as recited in the claim.

As mentioned initially above, the Examiner relies on Kozlowski for a teach of a sealing spacer fitted and fixed on a lead terminal where the spacer/terminal is insertable into a housing and positionally adjustable therein, as recited in Applicant’s claim 1. However as described above, Kozlowski provides base plates 1 and 2 immovable fixed to opposing ends of the housing 5. A first electrode 10 extends through and is fixed immovably to the base plate 1. A second electrode 20 extends through a sleeve 3 which extends through and is fixed immovable to the base plate 2. In this way, the single electrode 20 is axially movable relative to the base plate 2 and relative to the housing 5. But, Kozlowski does not provide a pair of lead terminals with sealing spacers fixed thereon where the spacer/terminal assemblies are freely movable within a housing, as recited in amended claim 1.

Thus, the Examiner’s proposed combination of Jones and Kozlowski does not and could never attain the claimed invention. For at least this reason, the obviousness rejection is improper and must be withdrawn; reconsideration and withdraw thereof is respectfully requested.

Additionally, as quoted above, the amended claim 1 recites a surge absorber without chips comprising “at least one broadened tip having a projected or patterned surface”. The Examiner asserts that this limitation is found in Jones at column 5, lines 1-5.

Here, the reference states that where polarity of the electrodes does not change in a particular circuit, “a perfectly symmetrical disposition of the electrodes is not then essential, and they may consist of opposed surfaces of different curvature.” This disclosure of Jones is a clear reference to the spark gap configuration shown in Figure 2 of the reference where the electrodes 9 and 10 are coaxial cylinders with the cylinder 10 overlapping and encompassing cylinder 9. This configuration is clearly not equivalent to the above-quoted limitation of claim 1. In fact, this element is found nowhere in the Jones or Kozlowski references. Thus, for at least this reason, we believe that the outstanding rejection is improper and must be withdrawn; reconsideration and withdrawal are respectfully requested.

Accordingly, for these reasons claim 1 is non-obvious. The claim is not further rejected and is thus allowable to Applicant.

Amended claim 2 includes the same limitations described above with reference to claim 1. Thus, for at least the reasons expressed above, claim 2 is non-obvious and hence allowable to Applicant; reconsideration and withdrawal of all relevant rejections is respectfully requested.

Claims 3-20 are rejected as being obvious in view of Jones and Kozlowski as combined with various other references. However, these claims variously depend from allowable claims 1 and 2 and are thus correspondingly allowable. Moreover, it is noted that the other relied-upon references do not remedy the deficiencies of Jones and Kozlowski. For at least these reasons, reconsideration and withdrawal of all relevant rejections is respectfully requested.

Accordingly, all of the rejections have been addressed and are herein overcome. Prompt issuance of a Notice of Allowance is respectfully requested.

The Examiner is invited to contact Applicant’s attorney at the below-listed telephone number regarding this Response or otherwise concerning this application.

Applicant hereby requests any extension of time pursuant to 37 C.F.R. 1.136 necessary for entry and consideration of this Response.

If there are any charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicant's attorneys.

Respectfully Submitted,

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